



# Safety and Environmental Performance Data for Industry Benchmarking 2018 Charts

Office of Offshore Regulatory Programs  
Offshore Safety Improvement Branch  
Safety and Environmental Management Systems Section  
OCS Performance Measures Program

“To promote safety, protect the  
environment and conserve  
resources offshore through vigorous  
regulatory oversight and  
enforcement.”

# About the Data in This Presentation

- Primary data source: BSEE-0131 form, required to be submitted annually to BSEE by Oil & Gas (O&G) operators with Outer Continental Shelf (OCS) activities during the prior year (30 CFR 250.1929)
- Self-reported data collected on the form includes:
  - Company and contact information
  - Illnesses and injuries: DART (Days Away, Restricted, Transfer) and non-DART recordables, company vs contractor, production vs drilling vs construction, by quarter
  - Hours worked: company vs contractor, production vs drilling vs construction, by quarter
  - Number of EPA NPDES (Environmental Protection Agency, National Pollutant Discharge Elimination System) non-compliances
  - Number and volume of oil spills less than one barrel each (categorized as low volume spills)
- Other data used in this analysis and presentation are from the BSEE Technical Information Management System (TIMS) database:
  - Wells spud
  - Platform count
  - Losses of well control
  - Fires and explosions
  - Incidents of non-compliance (INCs)
  - Rigs and components inspected
  - Oil and gas production
  - Oil spills in two additional categories: 1) between 1 and 50 barrels each, and 2) over 50 barrels each (per 30 CFR 254.46, spills greater than 50 barrels volume have additional reporting requirements)
- Aggregated data used to generate the charts in this presentation are also published in table format on BSEE.gov (<https://www.bsee.gov/summary-tables>)
- Industry may use the incident rates to compare their individual performance to the averages for all OCS O&G work.

# Overview of Calendar Year 2018 Data Set

- The graphs in this presentation, as well as the companion tables, are derived from both:
  - Data submitted by operators via the BSEE-0131 forms,
  - Data required to be reported to BSEE via other means, such as eWell.
- Data from calendar year 2010 and later may be considered more complete, as 2010 was the first year that BSEE-0131 form submission was required (30 CFR 250.1929).
- 58 operating companies\* recorded production and / or well operations in 2018 and were therefore expected to submit the BSEE-0131 form by March 31, 2019. BSEE received all 58 forms for 100% participation. In 2017, the number of active operators (and BSEE-0131 forms received) was 66.

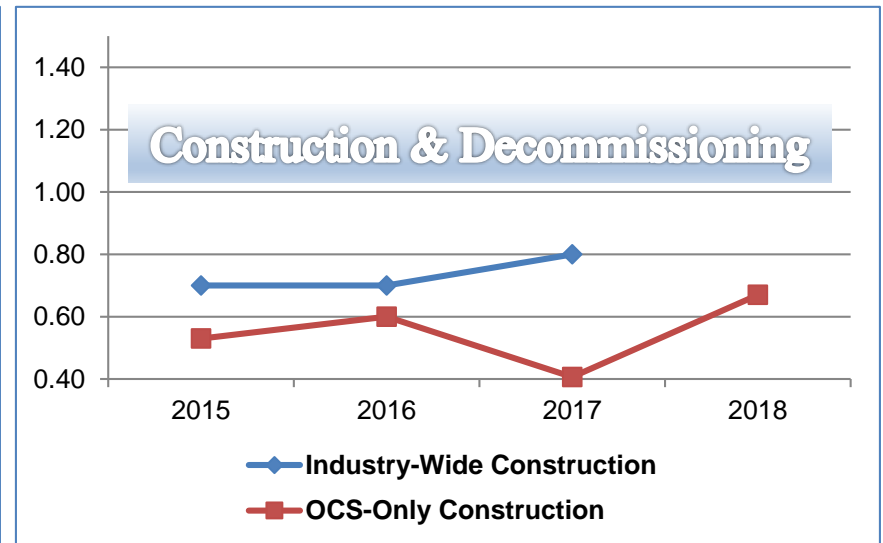
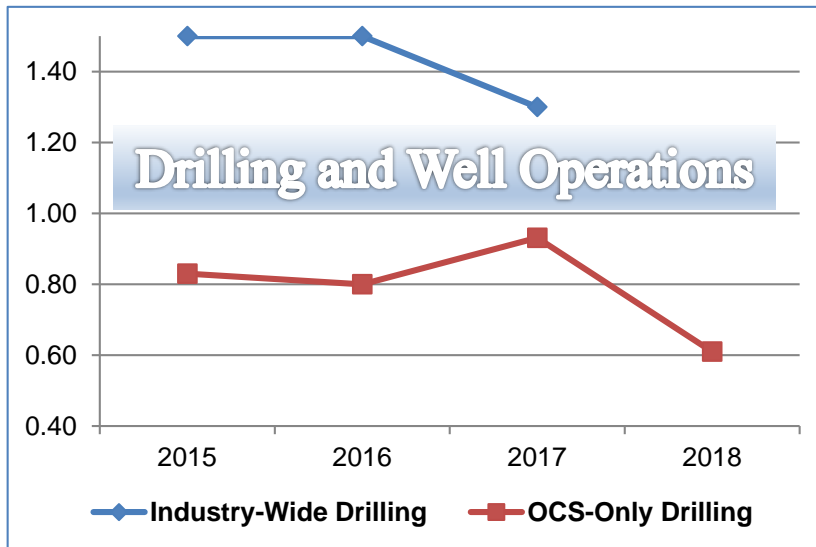
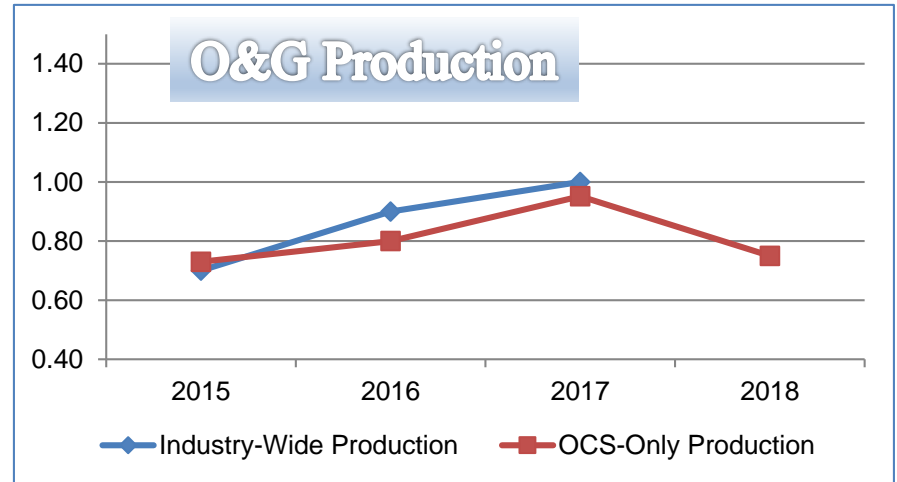
\* An operating company and all its subsidiaries are counted as 1 company in this analysis

# Highlights of 2018 Data

- Number of active companies declines, total work hours level off while total production continues to increase
  - The number of **company** work hours in production, drilling and construction continue to trend downward, while **contractor** work hours, especially in production, show an increase (slide 8)
  - A slight increase in production volume per year (slide 6) with a slight increase in contractor work-hours (slides 7-8) leads to a slight decrease of BOE produced per work-hour (slide 9)
  - The number of work hours expended per well spud continued to decline in 2018 (slide 10)
- Safety statistics
  - The Injury/Illness rates for O&G Production on the OCS declined slightly in 2018, though it remained within its historical range and appears to track similar to the industry-wide injury/illness rates for O&G Production (Slides 5 and 13)
  - The Injury/Illness rate for Drilling and other Well Operations on the OCS appear to be trending lower in 2018, and continue to be better than the injury/illness rates for drilling industry-wide (Slides 5 and 14)
  - The injury/illness rates for O&G Construction activities increased in 2018, approaching the range of injury/illness rates associated with O&G construction activities industry-wide (Slides 5 and 15)
- Oil Spill Numbers and Volumes have generally decreased
  - The large volume (> 50 BBL) oil spill incident rate decreased significantly in 2018, primarily due to one large volume spills in 2017 (16,152 BBL) (slide 23)
  - The largest spills since 2015 came from compromised subsea infrastructure (2,100 BBL in 2016 and 16,152 BBL in 2017)
- BSEE enforcement: The number of inspected components increased and the number of INCs issued decreased in 2018, contributing to the continuing decline in the production INC to component ratio (Slide 27). The ratio of well operation INCs issued to the number of rigs inspected, shows a slight increase in 2018 (slide 26).

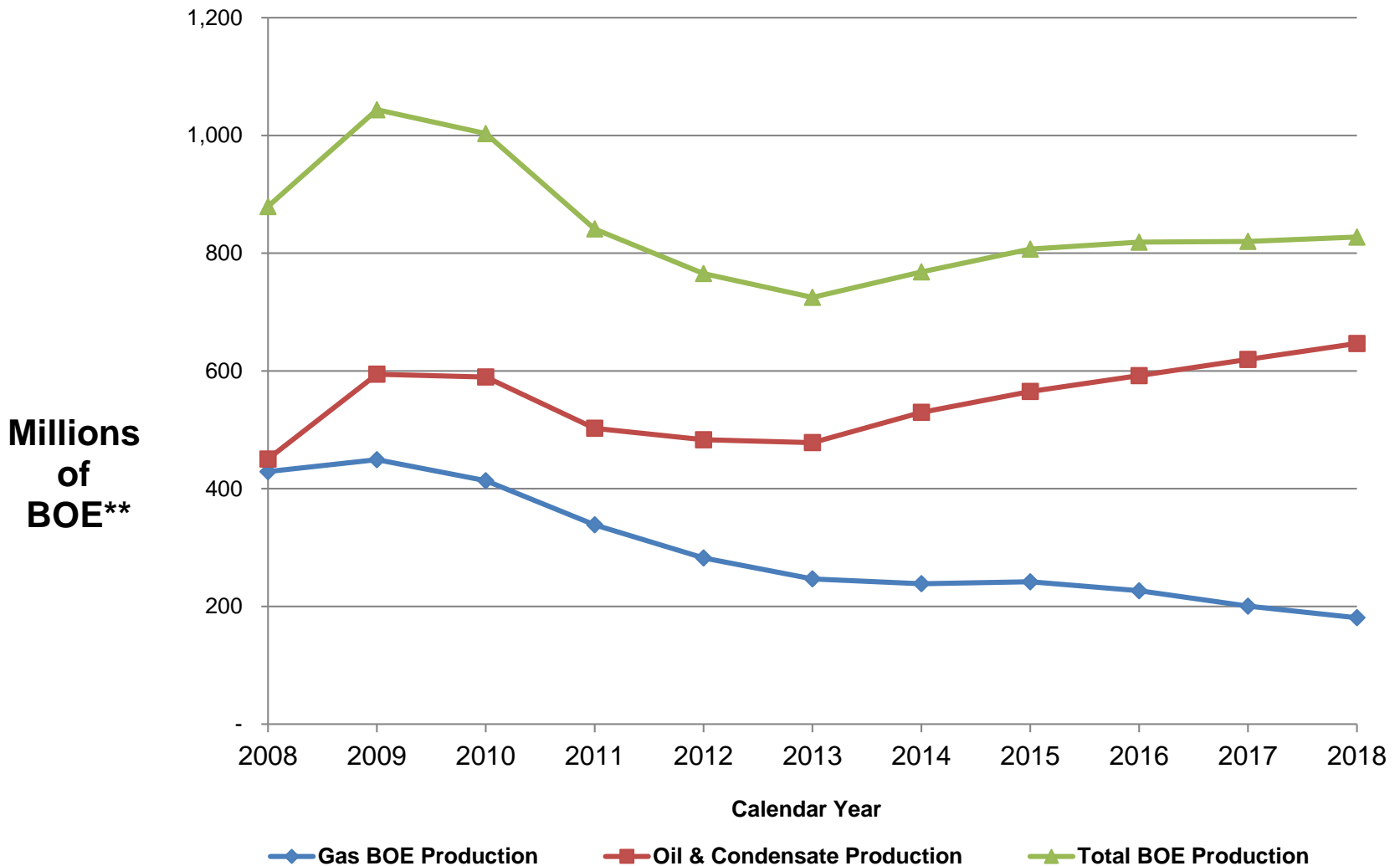
# OCS vs Industry-Wide Injury/Illness Rates\*

- The injury/illness rates for all oil and gas (O&G) categories (production, drilling and construction) **on the OCS** are trending lower than the rates for the **United States O&G industry overall**.



\* The industry-wide illness/injury rates are from the Bureau of Labor Statistics table: "TABLE 1. Incidence rates<sup>1</sup> of nonfatal occupational injuries and illnesses by industry and case types, 2017". 2018 industry-wide data will be added when they are available (November 2019). These rates use the same formula that BSEE uses, which is  $\frac{[\text{DART} + \text{non-DART recordables}]}{[\text{total number of work hours}]} \times 200,000$ . Each set combines both DART and non-DART recordables (DART = Days Away from work, job Restricted, and job Transfer).

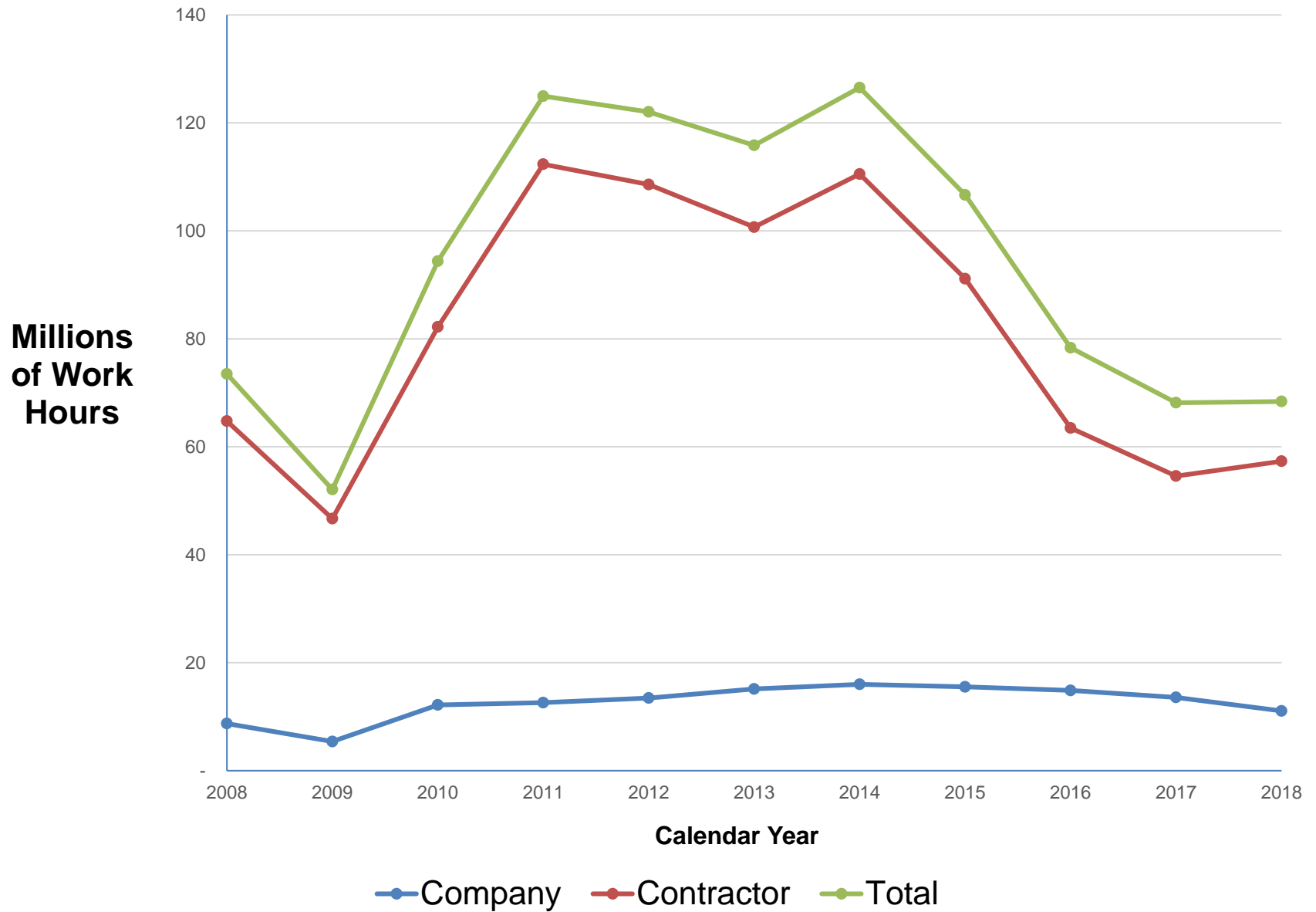
# Total OCS Oil and Gas Production\*



\* Production totals are updated periodically. Prior year totals shown here may differ from those shown in previous versions of this presentation.

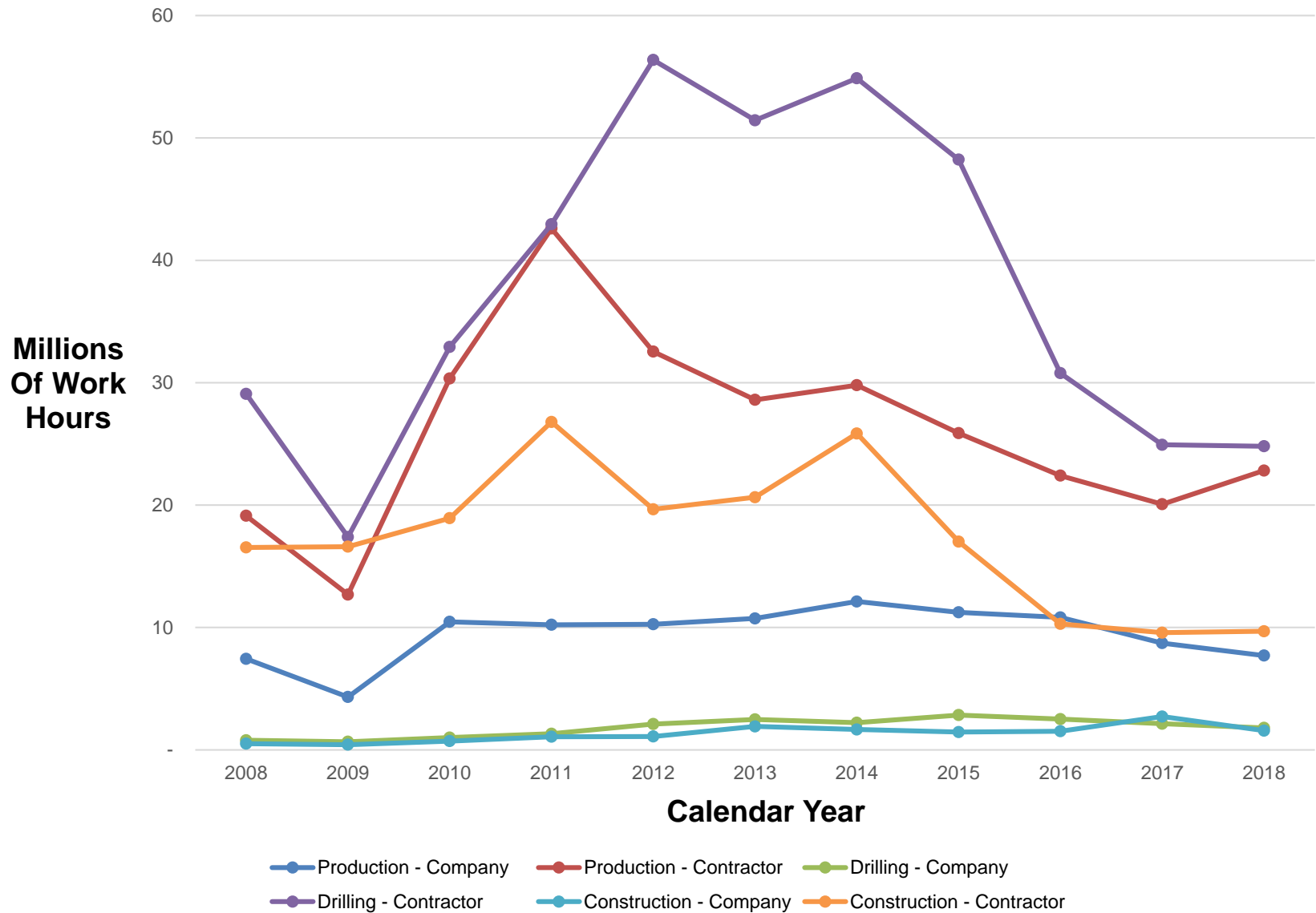
\*\* BOE = Barrels of Oil Equivalent. Gas production is converted into BOE so that it can be compared to actual barrels of oil. In 2018, the conversion factor used was 5.524 MCF per BOE.

# Total OCS Work Hours



# Total OCS Work Hours

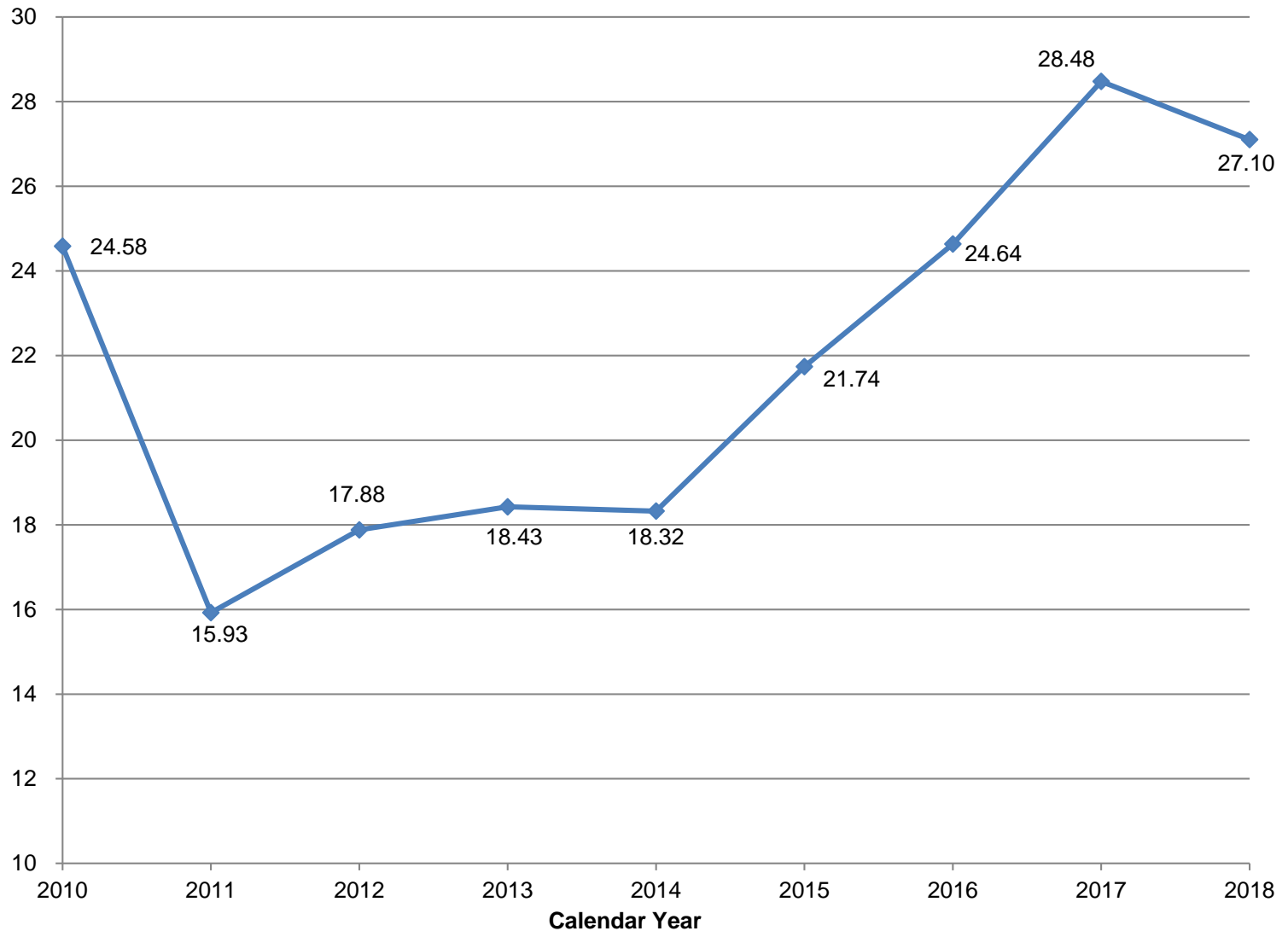
## Category, Company vs Contractor





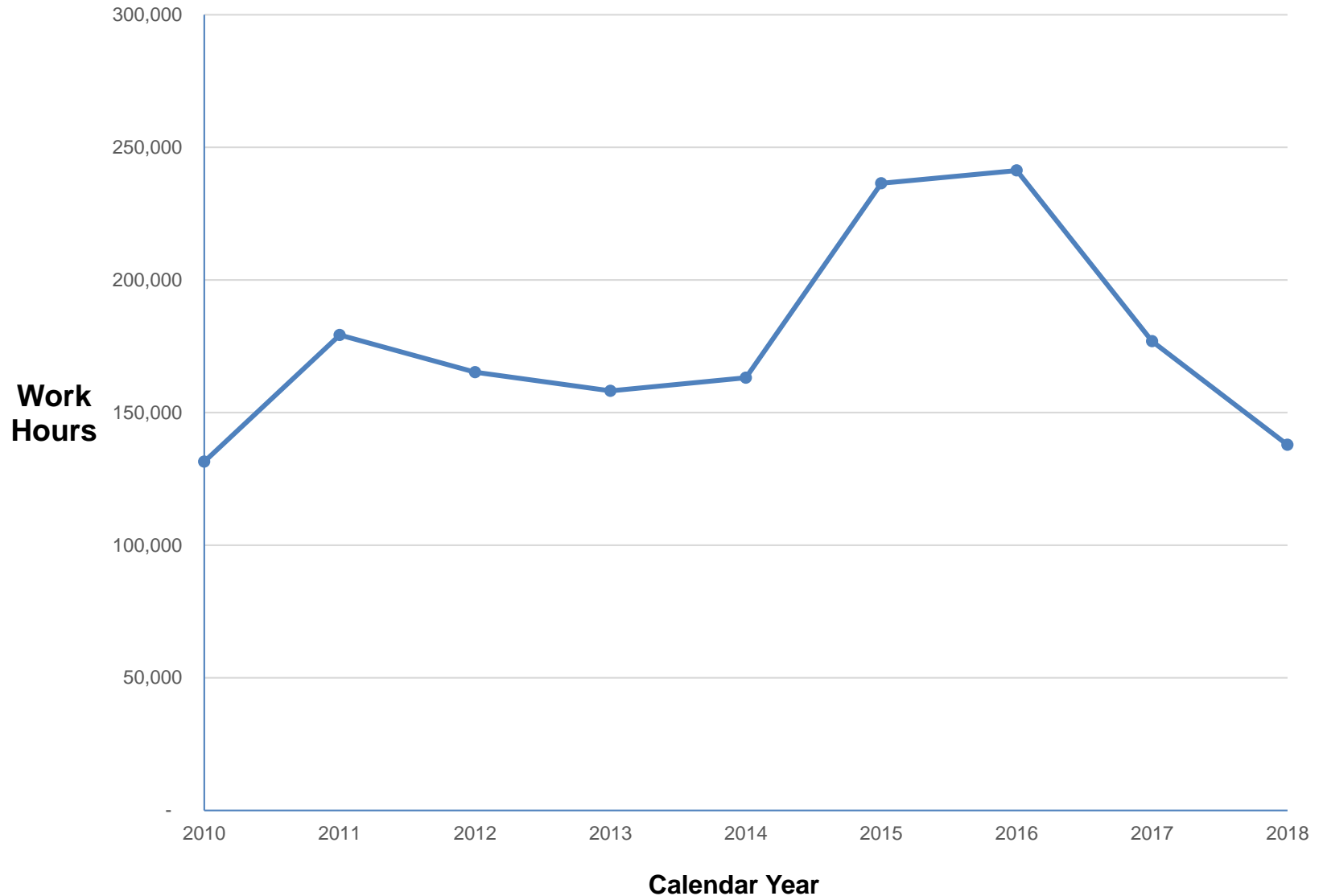
# BOE Production Per Production Work Hour\*

BOE Produce per production Work Hour

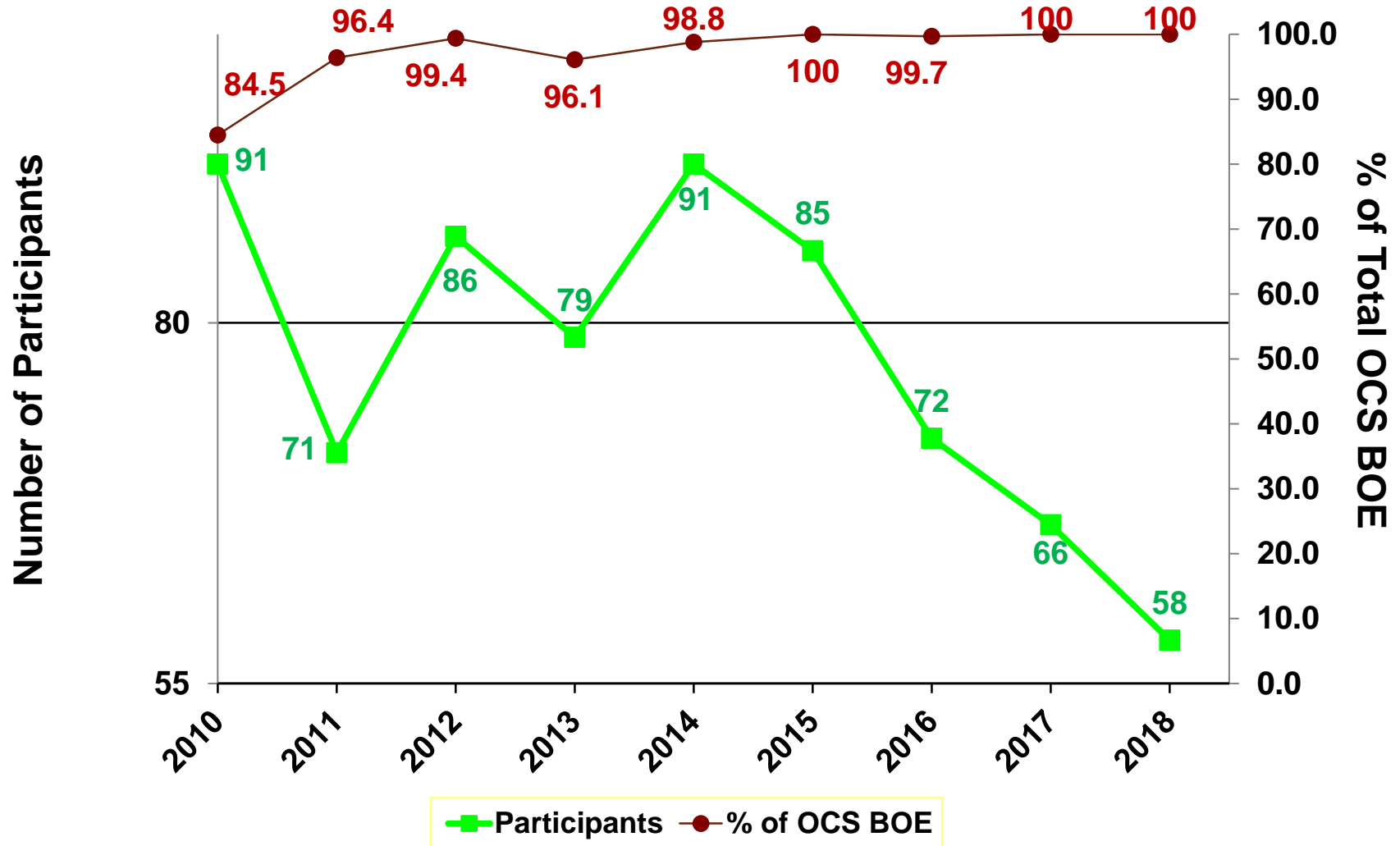


\* Production totals are updated periodically. Prior year totals shown here may differ from those shown in previous versions of this presentation.

# Drilling Work Hours per Well Spud

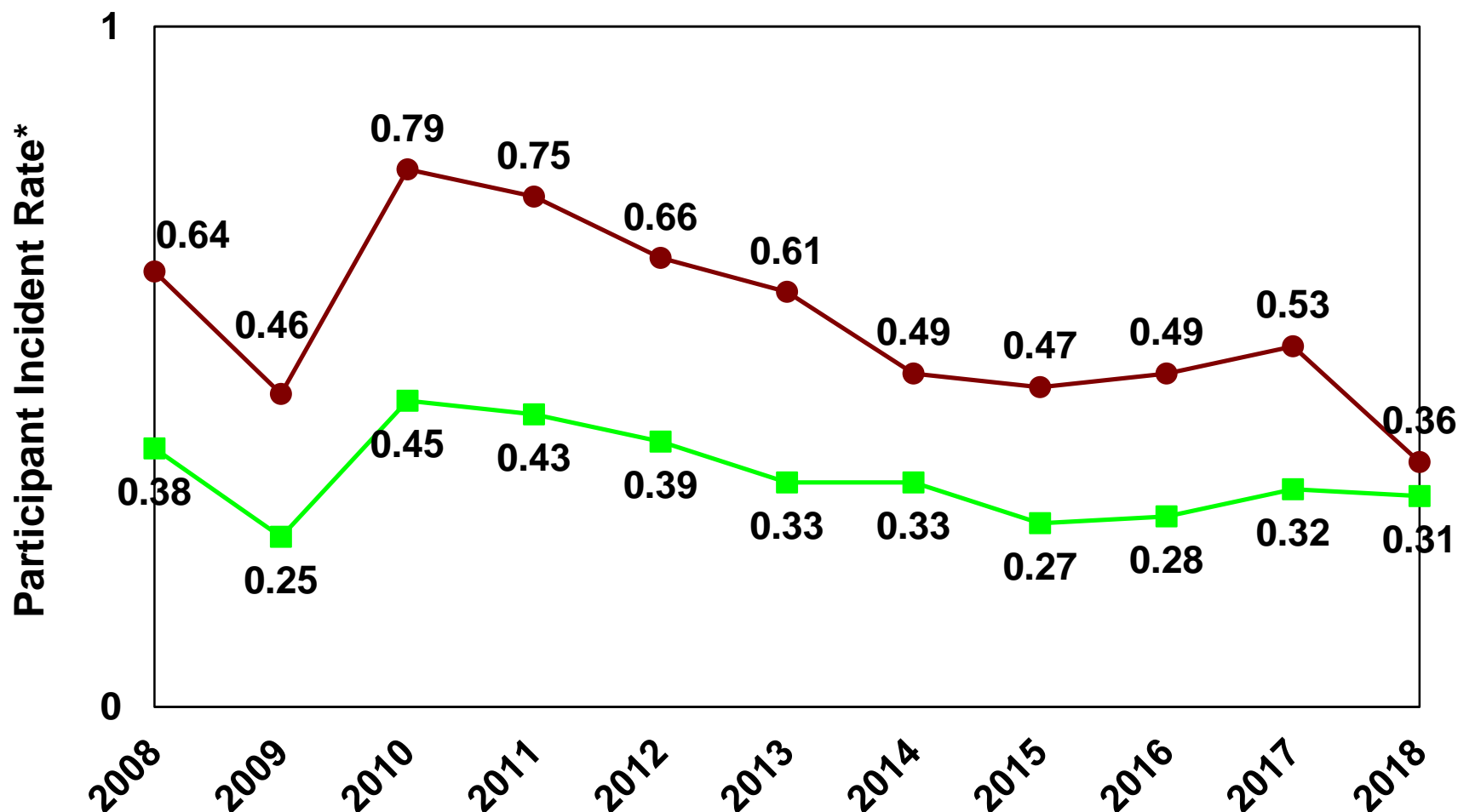


# OCS Performance Data Survey Participation\*



\*2010 was the first year that OCS Performance Measure Data were required by BSEE regulation (30 CFR 250.1929).

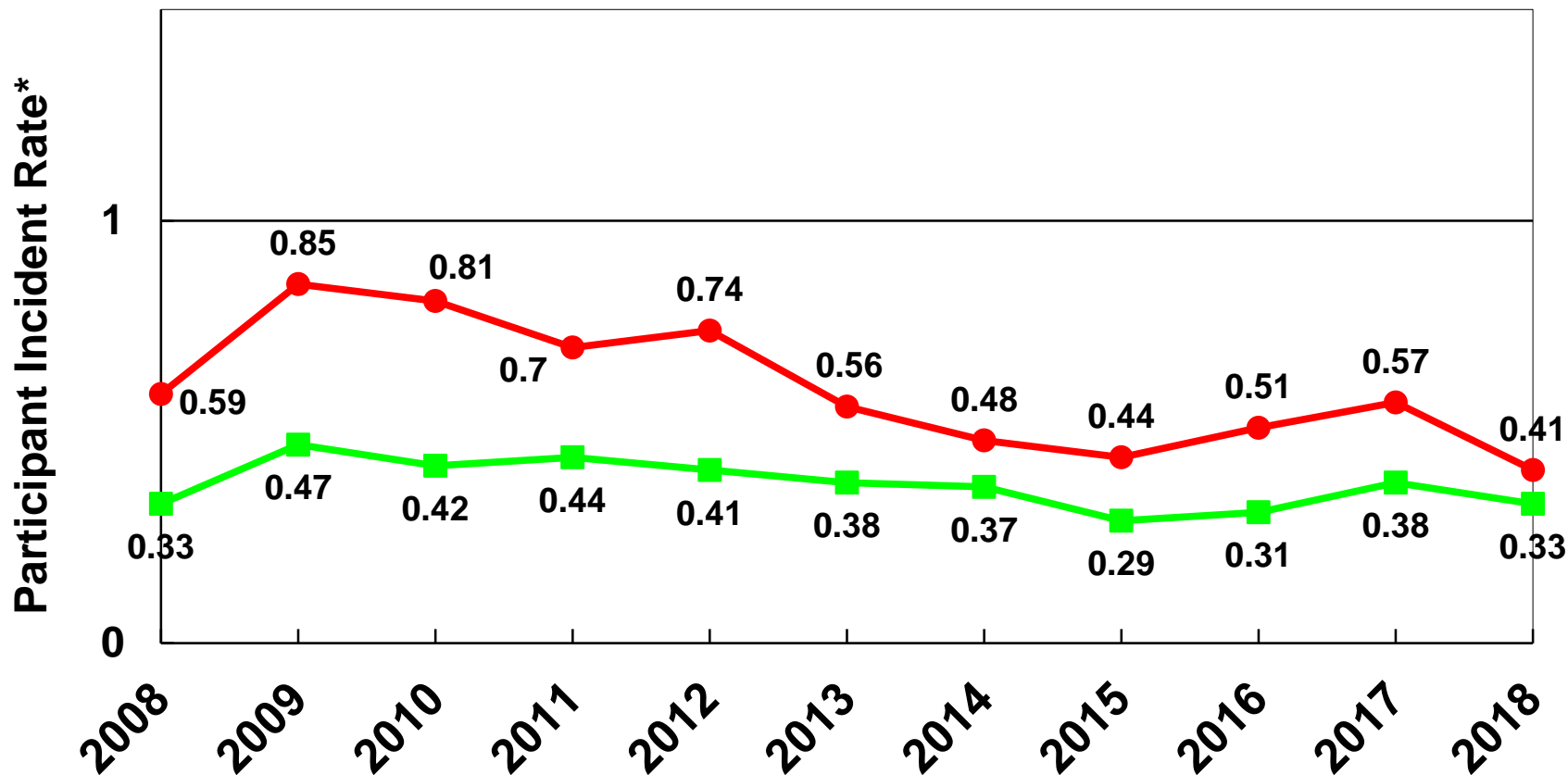
# Combined OCS Operations: DART and Non-DART Recordable Incident Rates\*



\*Number of injury/illness incidents per 200,000 man-hours —●— Non-DART Recordable —■— DART Recordable  
worked for operators that submitted BSEE-0131 forms.

DART = Days Away/Restricted or Job Transfer

# Production Operations: DART and Non-DART Recordable Incident Rates\*

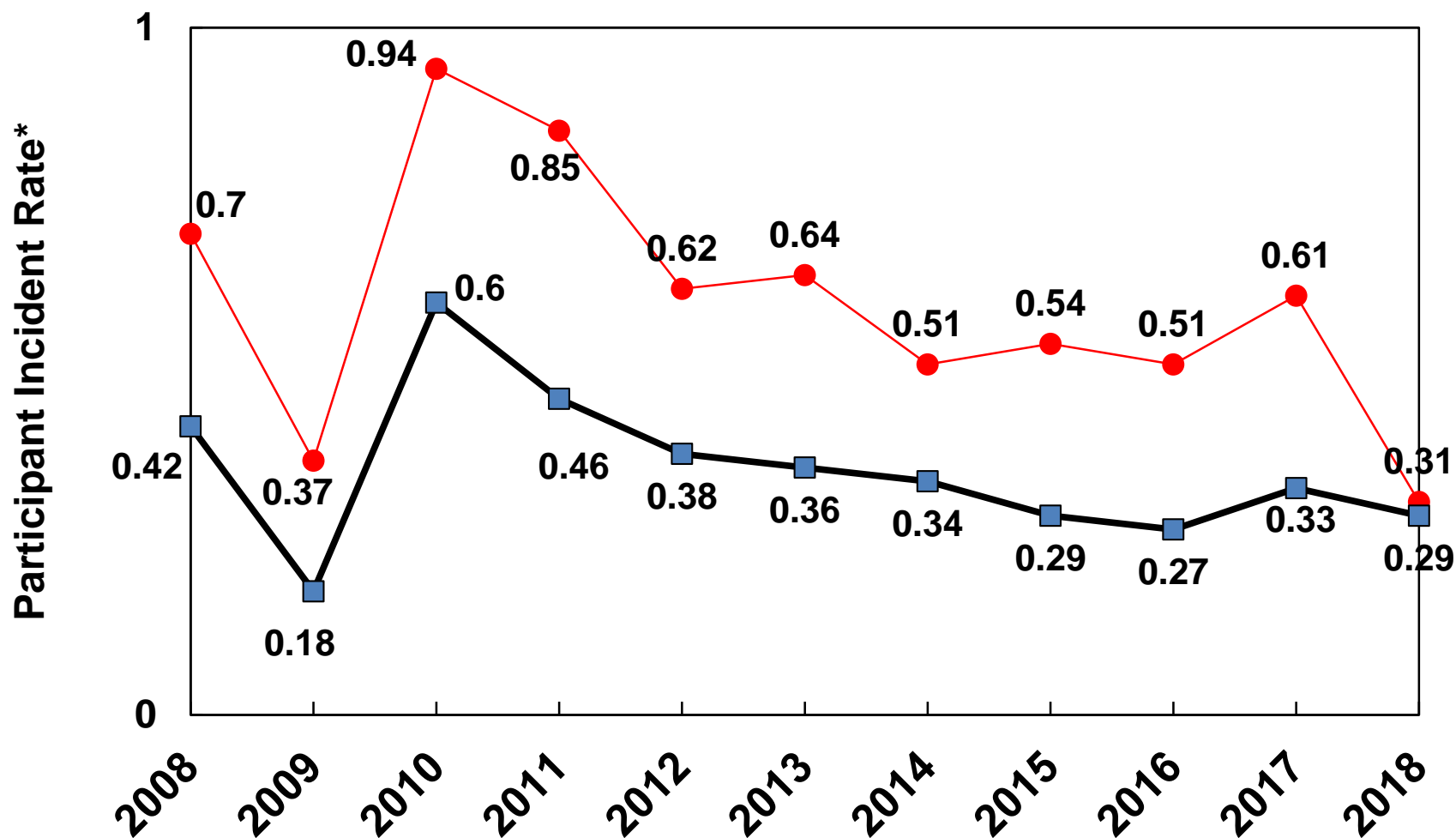


\*Number of injury/illness incidents per 200,000 man-hours worked for operators that submitted BSEE-0131 forms.

● Non-DART Recordable    ■ DART Recordable

DART = Days Away/Restricted or Job Transfer

# Drilling and Well Operations: DART and Non-DART Recordable Incident Rates\*



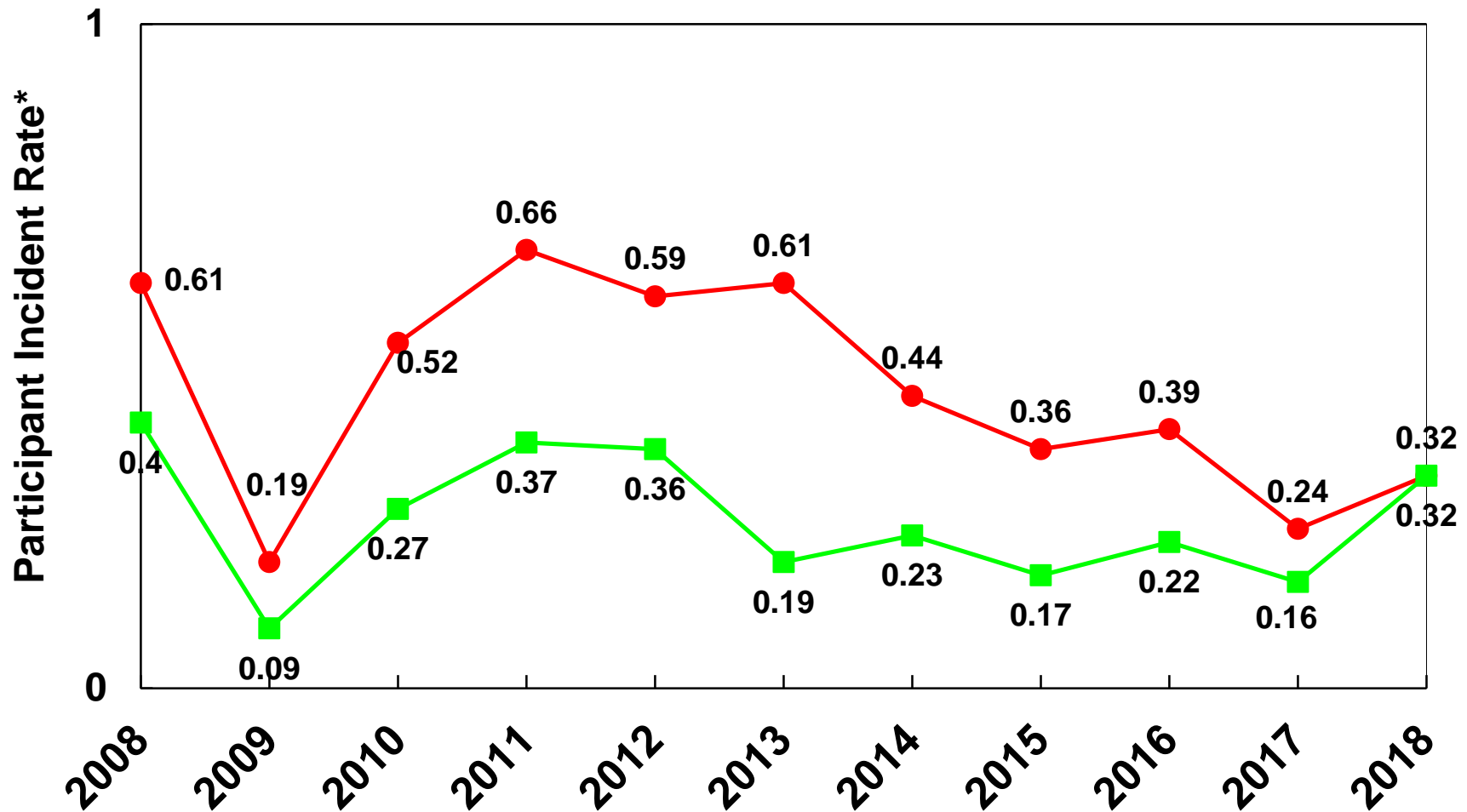
\*Number of injury/illness incidents per 200,000 man-hours worked for operators that submitted BSEE-0131 forms.

● Non-DART Recordable

■ DART Recordable

DART = Days Away/Restricted or Job Transfer

# Construction and Decommissioning Operations: DART and Non-DART Recordable Incident Rates\*



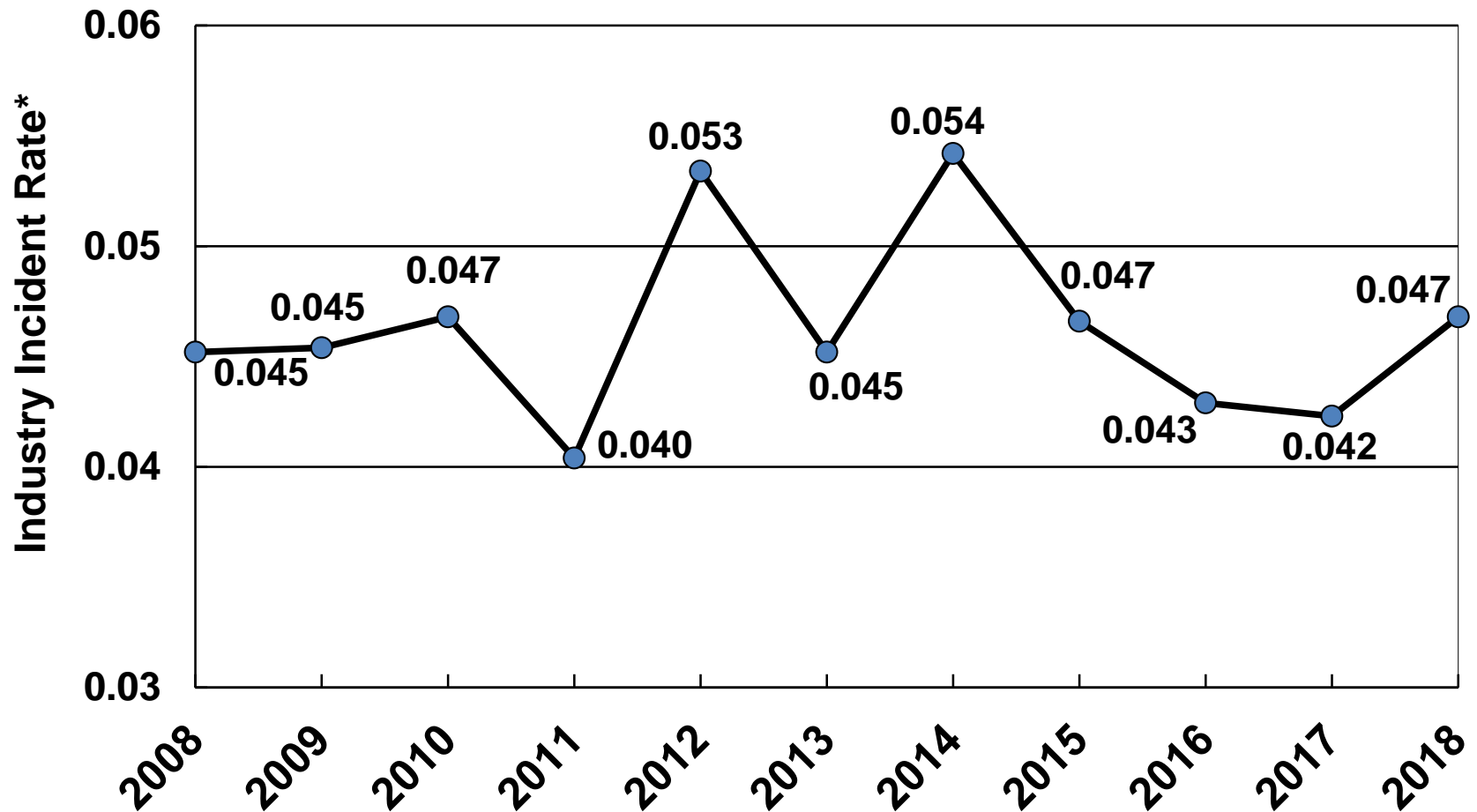
\*Number of injury/illness incidents per 200,000 man-hours worked for operators that submitted BSEE-0131 forms.

DART = Days Away/Restricted or Job Transfer

—●— Non-DART Recordable

—■— DART Recordable

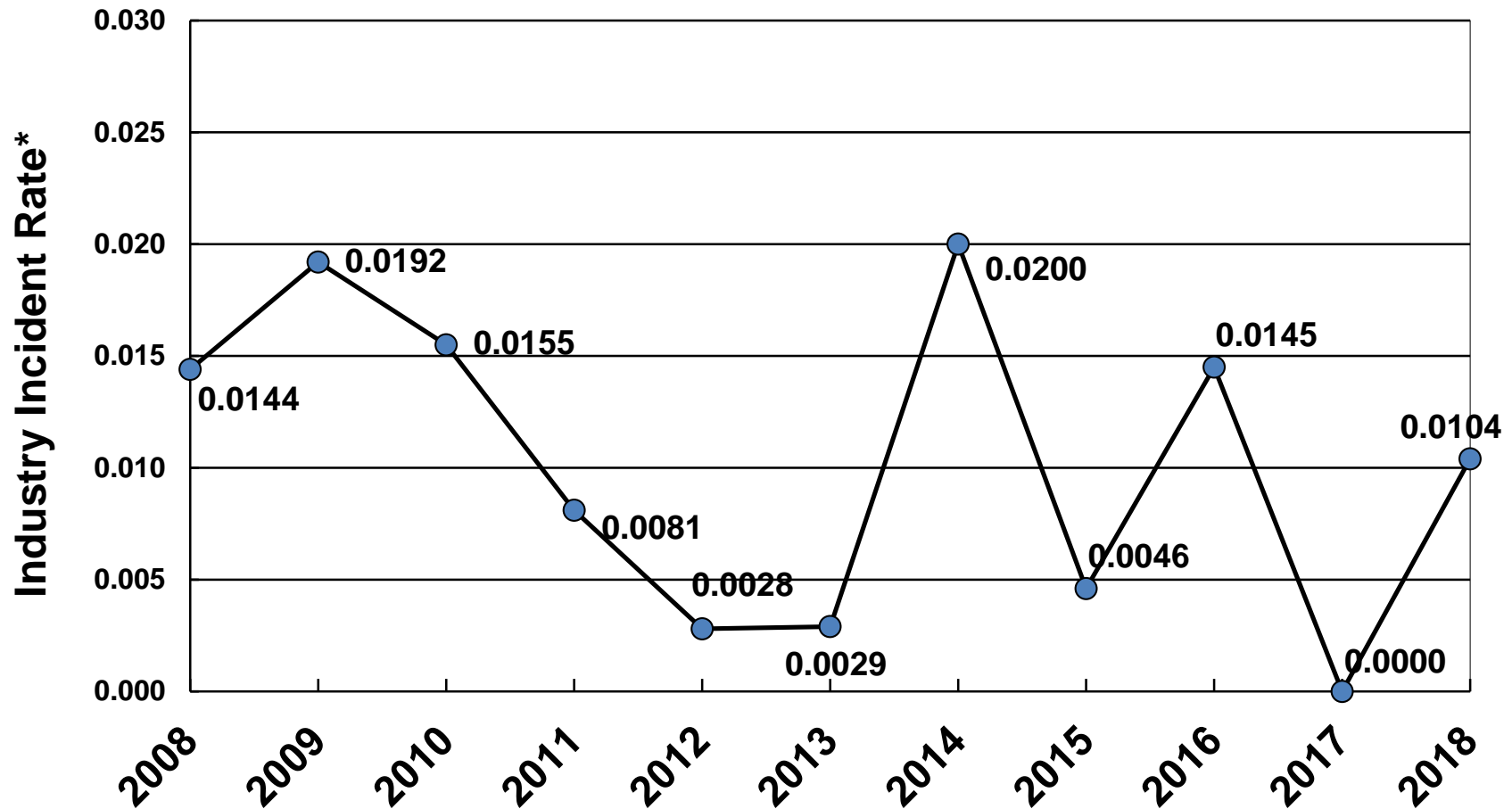
# Fire and Explosion Incident Rate\*



\*Ratio of fires and explosions to number of platforms and wells spudded for entire OCS.



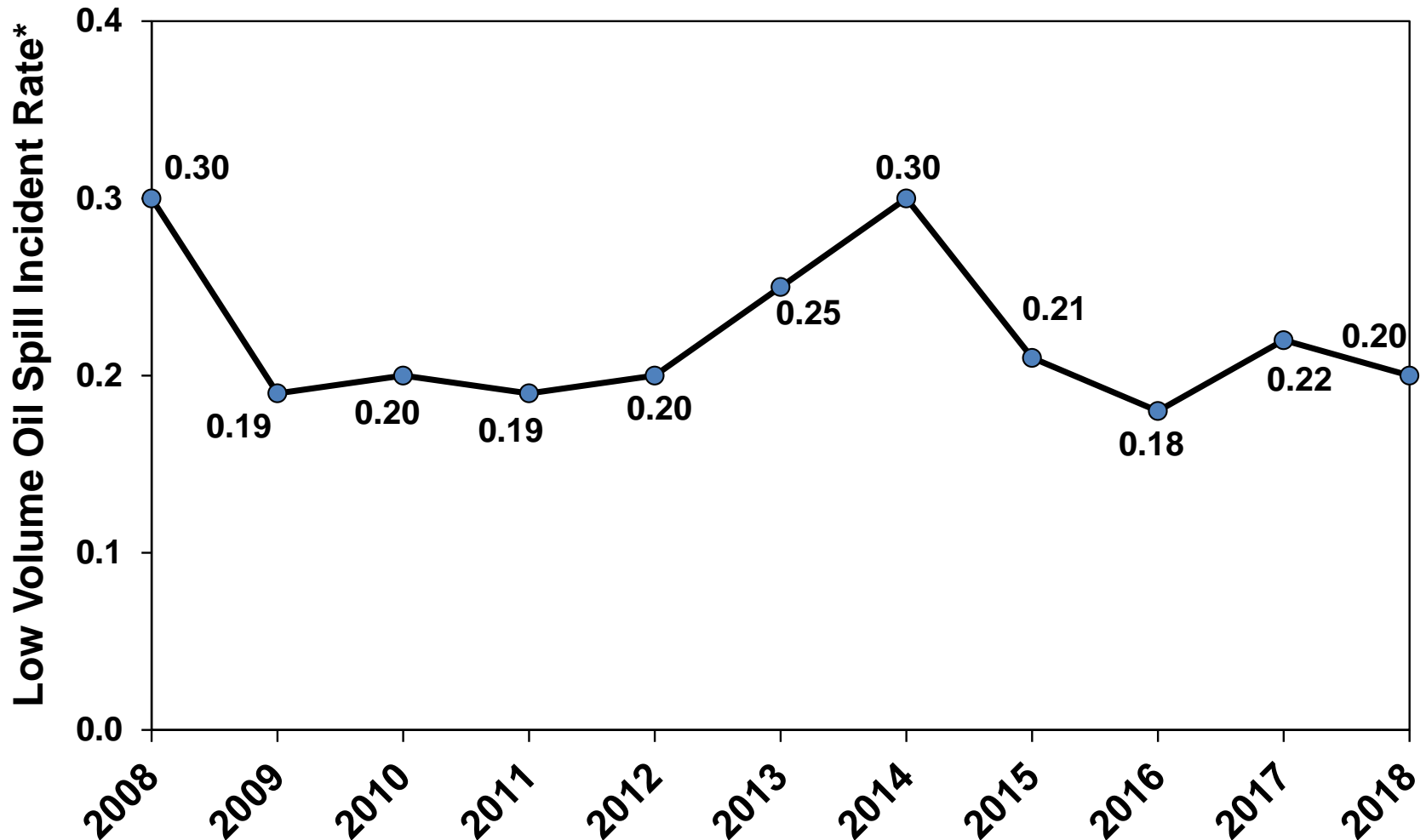
# Loss of Well Control Incident Rate\*



\*Per wells spud for entire OCS. BSEE's incident reporting requirements were changed effective July 17, 2006 to require reporting of all losses of well control. Formerly called "Blowout Rate".

# Incident Rate for Oil Spills < 1 BBL

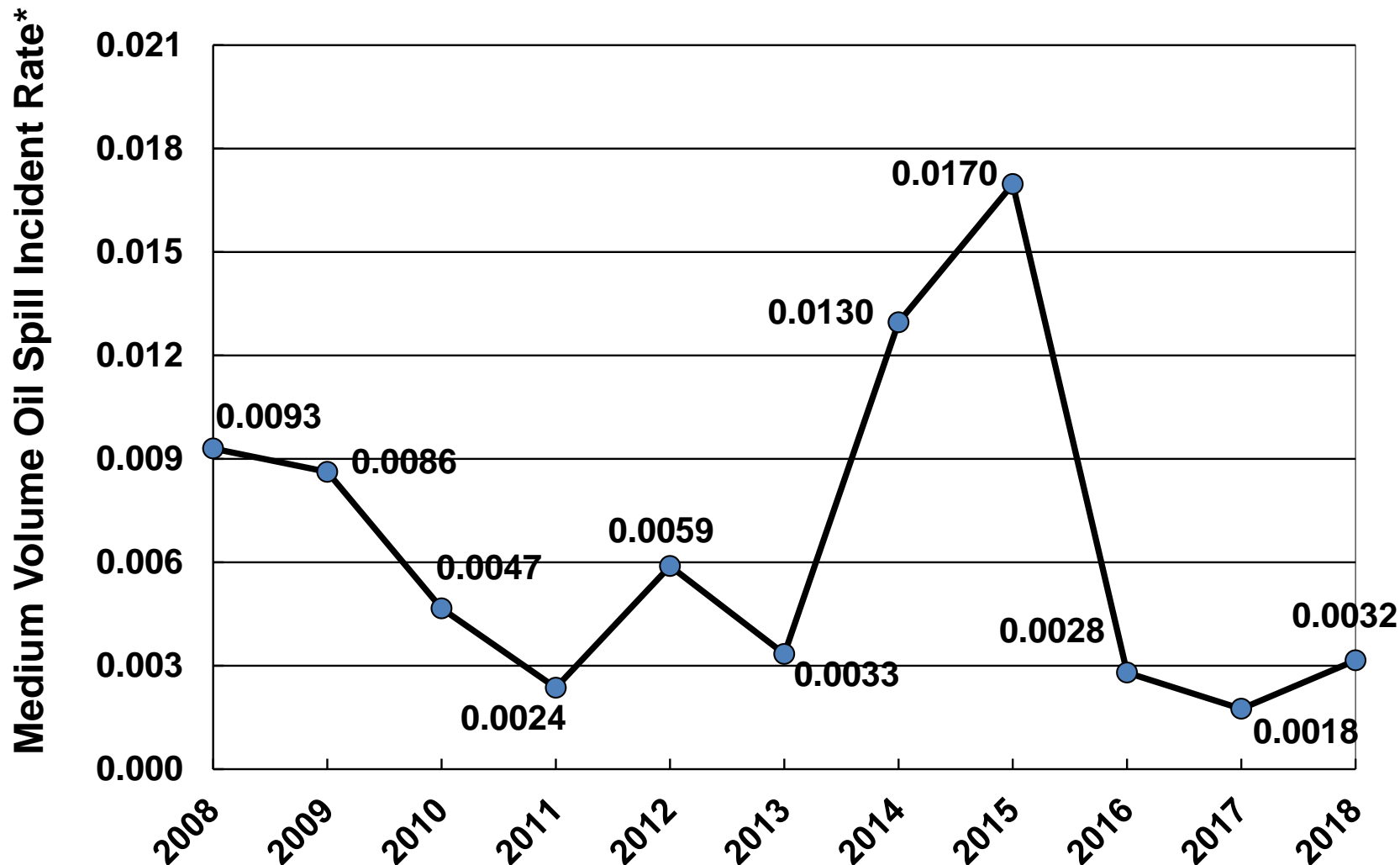
(Ratio of # Incidents to the # Facilities and wells spud)



\*Ratio of number of spills < 1 BBL to number of platforms and wells spudded for operators that submitted BSEE-0131 forms. Data does not distinguish between the types of operations from which the oil was spilled.

# Incident Rate for Oil Spills $\geq 1$ BBL and $< 50$ BBL

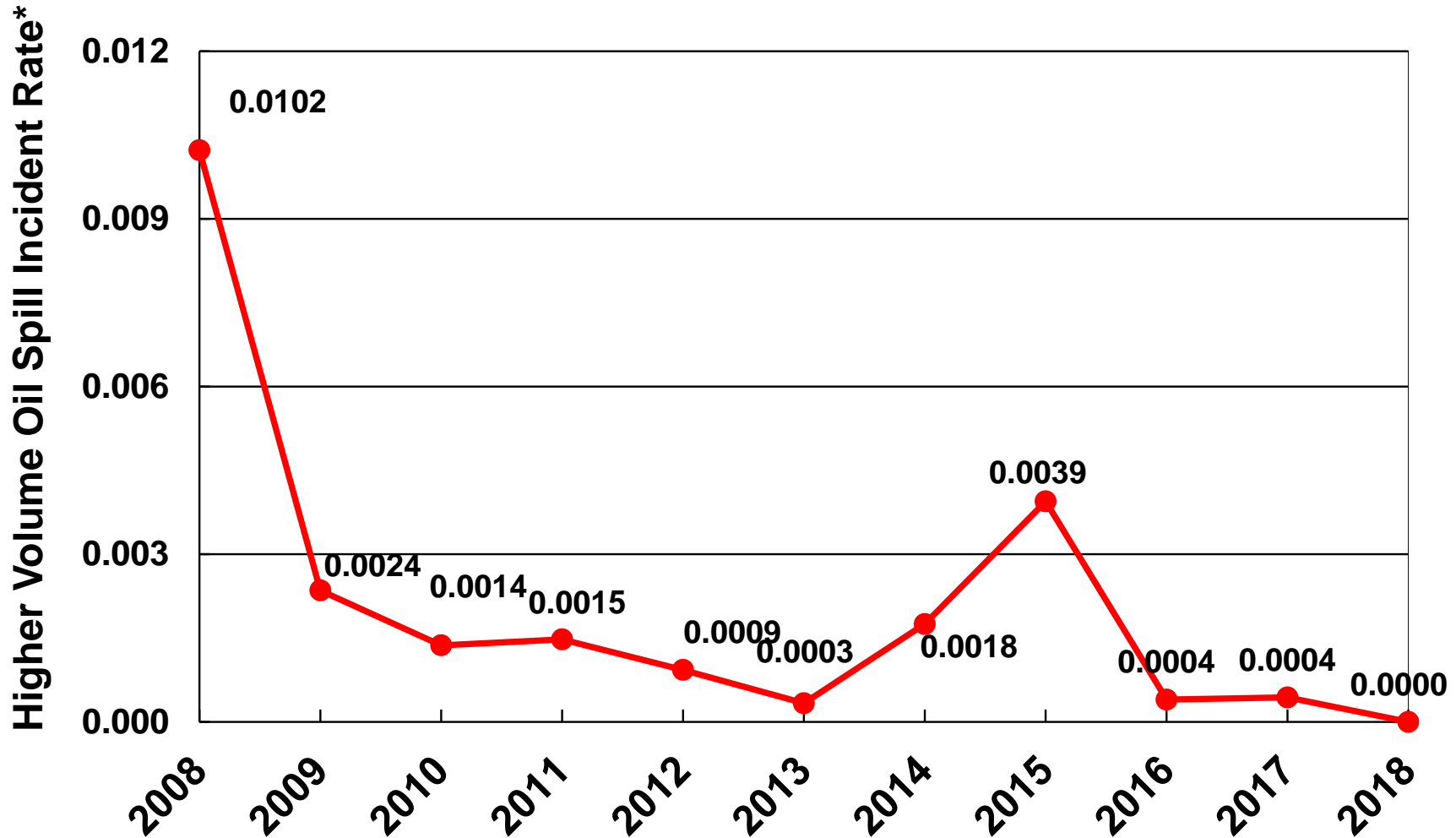
(Ratio of # Incidents to the # Facilities and wells spud)



\*Ratio of number of spills between 1 and 49.99 BBL to number of platforms and wells spudded for entire OCS. Data does not distinguish between the types of operations from which the oil was spilled.

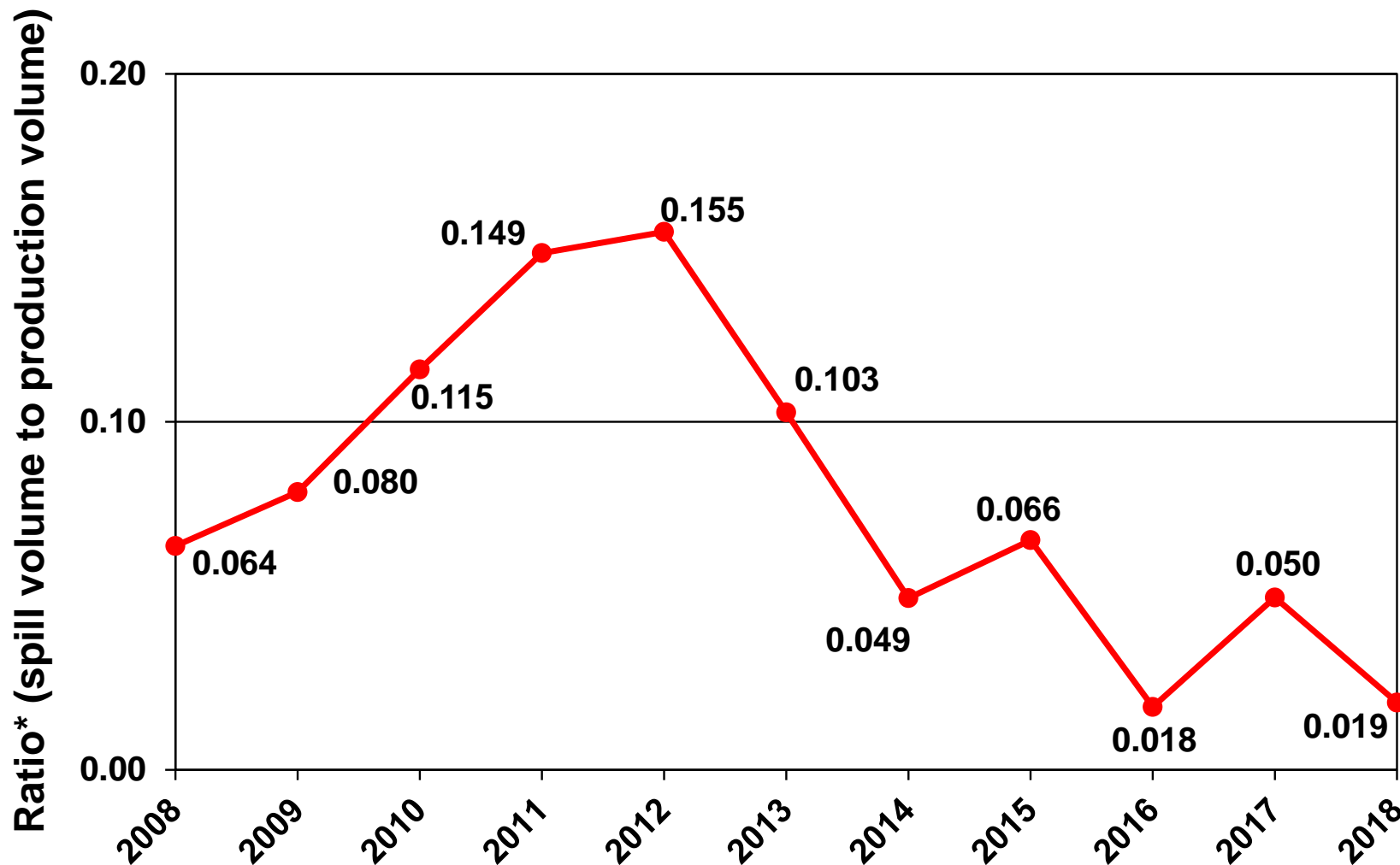
# Incident Rate for Oil Spills $\geq$ 50 BBL

(Ratio of # Incidents to the # Facilities and wells spud)



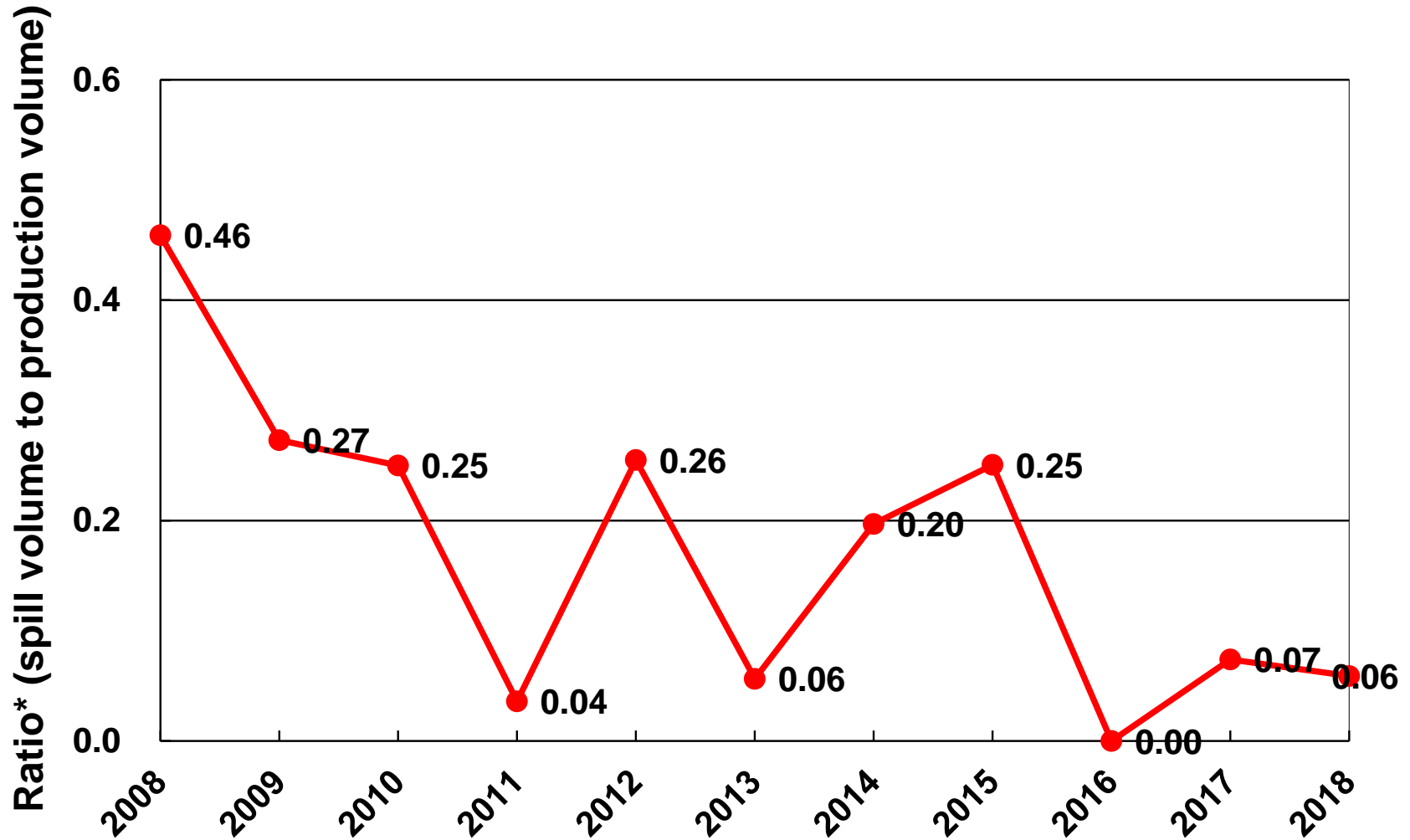
\*Ratio of number of spills of 50 BBL or more to number of platforms and wells spudded for entire OCS. Data does not distinguish between the types of operations from which the oil was spilled.

# Ratio\* of Oil Spill Volumes to Production Volumes for Oil Spills <1 BBL



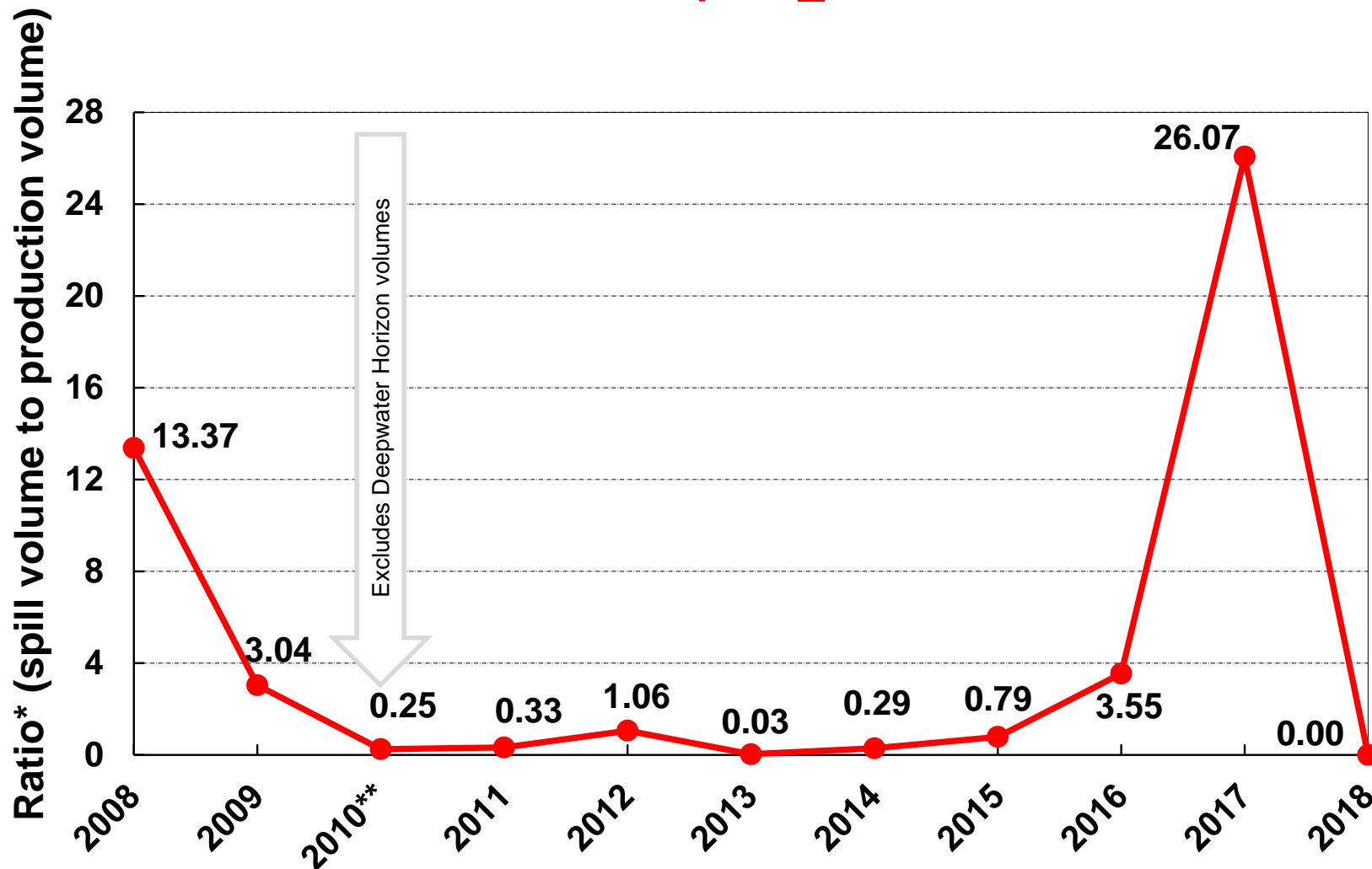
\*BBL spilled per 1,000,000 BBL of oil produced for operators that submitted BSEE-0131 forms.  
Data does not distinguish between the types of operations from which the oil was spilled.

# Ratio\* of Oil Spill Volumes to Production Volumes for Oil Spills $\geq 1$ BBL and $< 50$ BBL



\*BBL spilled per 1,000,000 BBL of oil produced for entire OCS. Data does not distinguish between the types of operations from which the oil was spilled.

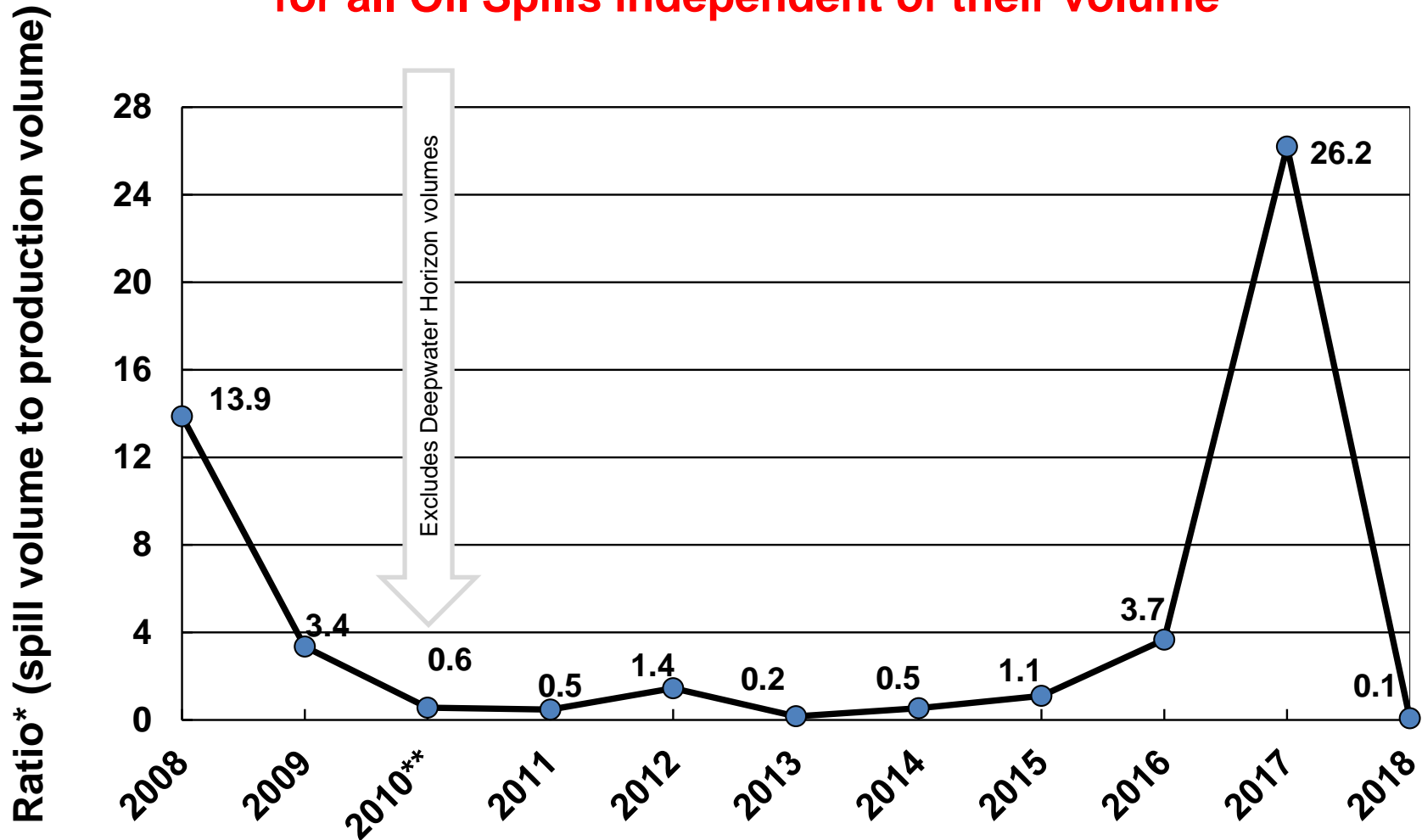
# Ratio\* of Oil Spill Volumes to Production Volumes for Oil Spills $\geq 50$ BBL



\*BBL spilled per 1,000,000 BBL of oil produced for entire OCS. Data does not distinguish between the types of operations from which the oil was spilled.

\*\*The CY 2010 oil spill rate excludes the volume released from the Deepwater Horizon incident, estimated by the U.S Coast Guard in an Incident-Specific Preparedness Review at 4,928,100 BBL. If it were included, this would increase the high volume oil spill rate for CY 2010 to 8,358 BBL spilled per 1,000,000 BBL oil produced.

# Ratio of Oil Spill Volumes to Production Volumes for all Oil Spills independent of their volume

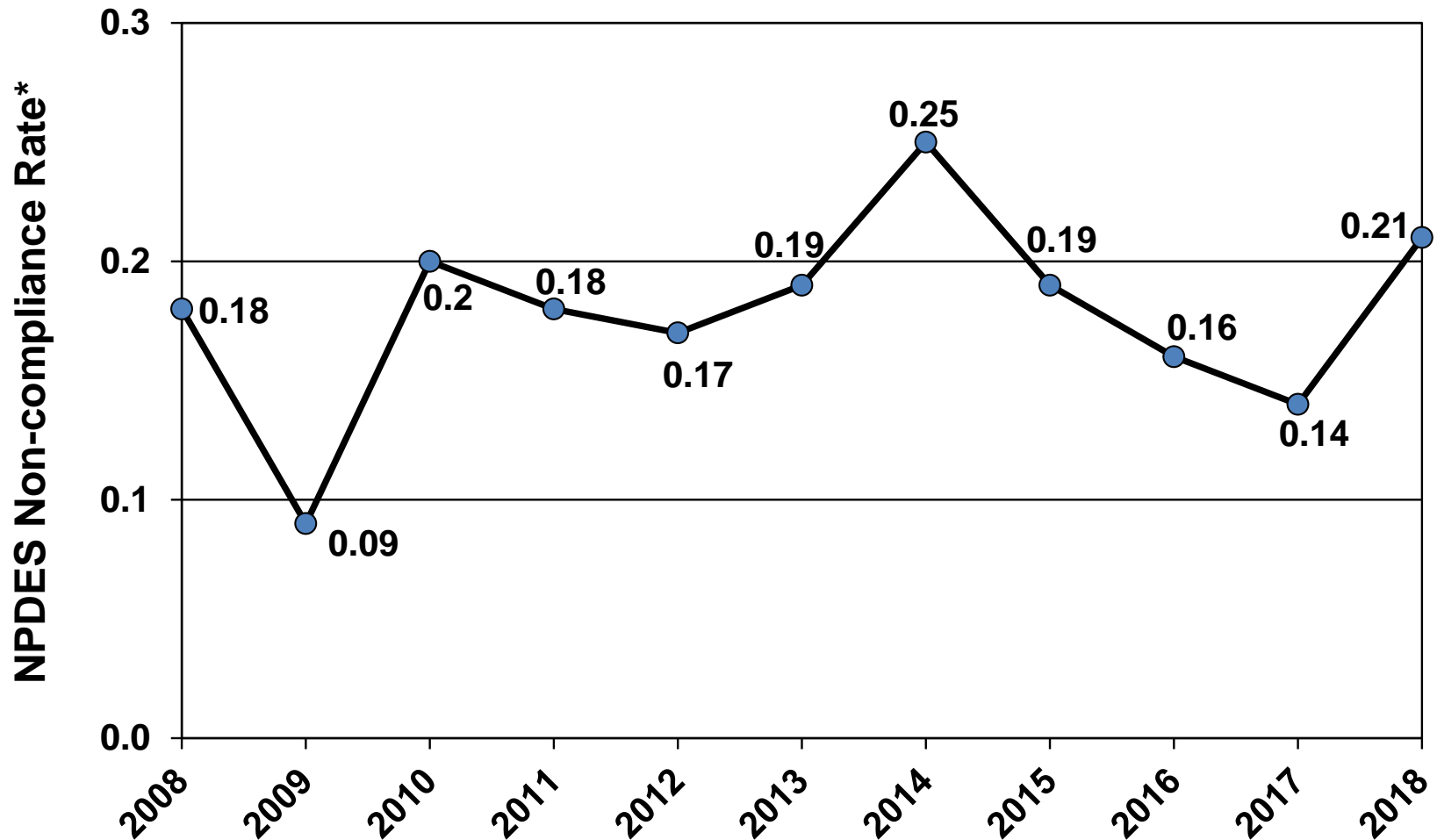


\*BBL spilled per 1,000,000 BBL of oil produced. Less than one barrel category data derives from operators who submitted BSEE-0131 forms, whereas the one to ten and over ten barrel categories derive from other incident reports (entire OCS). Data does not distinguish between the types of operations from which the oil was spilled.

\*\*The CY 2010 oil spill rate excludes the volume released from the Deepwater Horizon incident, estimated by the U.S Coast Guard in an Incident-Specific Preparedness Review at 4,928,100 BBL. If it were included, this would increase the total oil spill rate for CY 2010 to 8,359 BBL spilled per 1,000,000 BBL oil produced.

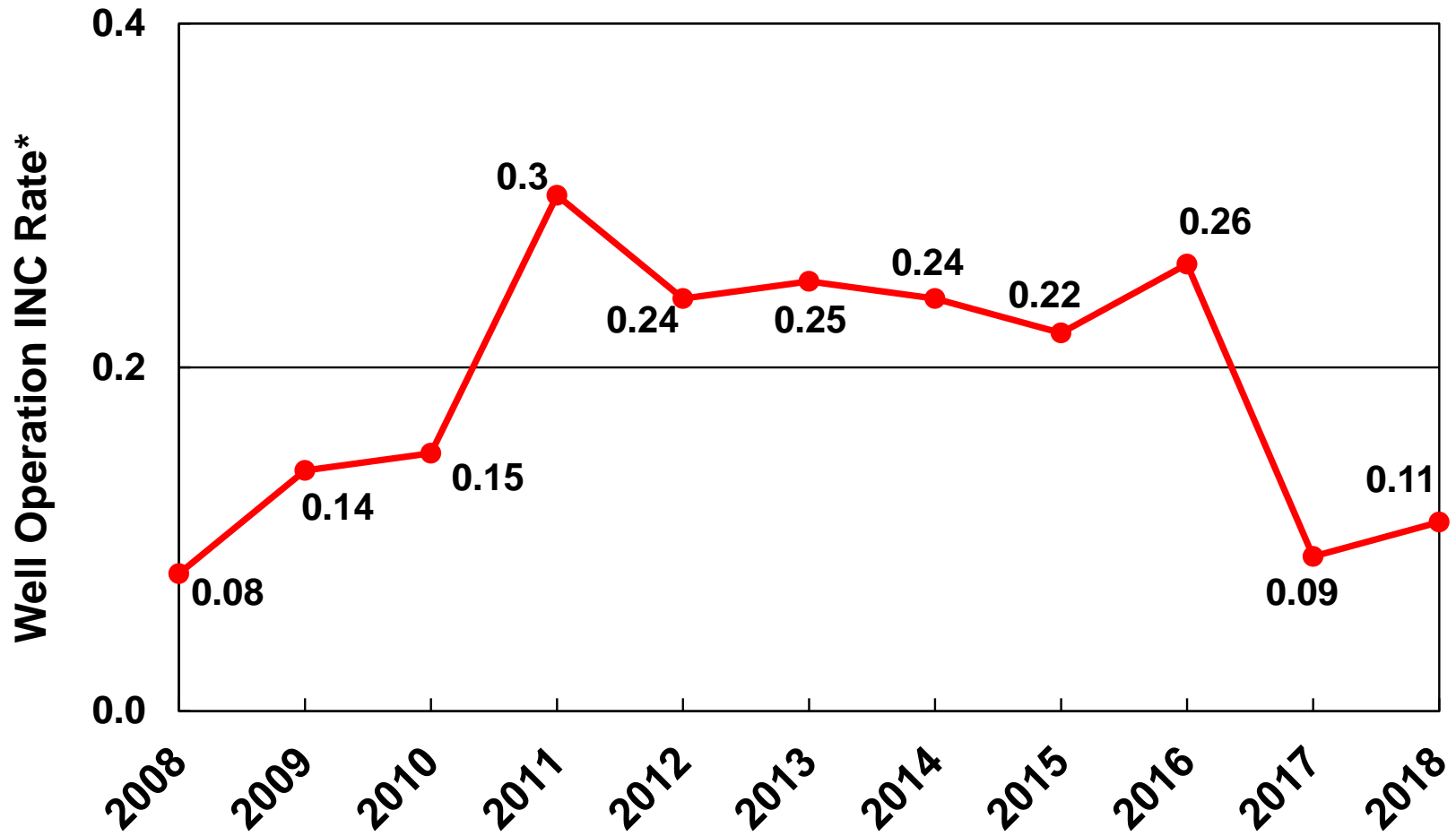


# National Pollutant Discharge Elimination System (NPDES) Non-compliance Incident Rate\*



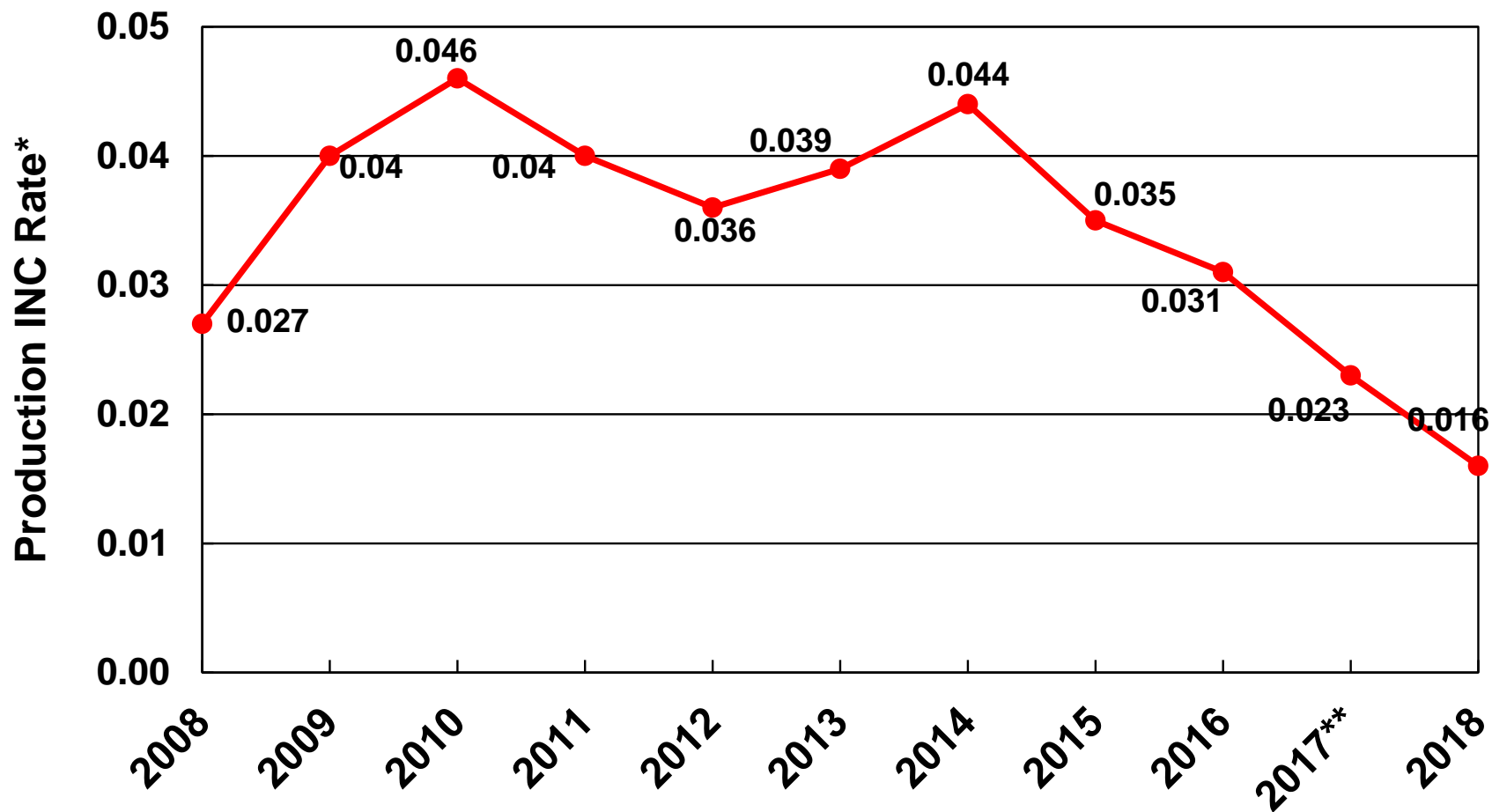
\*Ratio of non-compliances to number of platforms and wells spudded for operators who submitted BSEE-0131 forms.  
NPDES = National Pollutant Discharge Elimination System.

# Well Operation Incident of Noncompliance (INC) Rate\*



\*Ratio of well operation INCs written to the number of drilling rig and well workover operation inspections conducted for entire OCS.

# Production Incident of Noncompliance (INC) Rate\*



\*Ratio of production INCs written to number of components inspected for entire OCS.

\*\*This analysis reflects the historical method for counting components inspected. The method used in 2018 to calculate the 2017 INC to Component ratio, is no longer being used.

BSEE Website: [www.bsee.gov](http://www.bsee.gov)



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